Abnormal specimens were anaesthetized with MS-222, and morphological and anatomical terminology relating to the abnormality followed that used by Al-Harbi (2001). Morphological abnormality was photographed with a digital camera (Nikon Coolpix L22) and deformity was further examined by digital X-ray system (Fujifilm FCR Capsula XL II Reader). For the comparison of deformity, a normal fish specimen was also radiographed. With the help of an X-ray radiograph, skeletal deformities were better visualised, because radiography is faster and simpler to perform than standard histological methods for examining skeletal anatomy and skeletal development (Olatunji-Akioye, 2010). Two deformed specimen of *S. denisonii* (Total Length=57mm, Standard Length=44mm, Total Weight=19.5mg) was caught by drag net from Vallithode (12.0304 latitude and 75.7154 longitudes) region of River Valapattanam in August 2013. Another deformed specimen of *S. denisonii* (Total length=42mm, Standard length=29mm, Total weight=79 mg, Age 0+) was caught by drag net from River Valapattanam (11.9499 latitude and 75.7338 longitudes) in May 2013.

Different types of morphological as well as osteological anomalies were recorded in this hatchery produced young ones of *S. denisonii*. The deformities were externally apparent compared to normal specimen and observed deformities includes, *semi-operculum*, *vertebral deformity*, *head deformity, mouth deformity, fin deformity* and also *multiple deformities*. The following types of malformations were observed in the abnormal *S. denisonii*. Even though the exact cause of deformity was not determined; unfavourable abiotic conditions, inappropriate nutrition, early developmental errors and genetic factors or a combination of these factors could all have been involved in the pathogenesis. But in the absence of exact evidence, no single specific reason for deformities in *S. denisonii* can be established.

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